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Abstract

The present invention provides a method of selectively depositing a metal film in an opening of an insulating layer formed on a semiconductor substrate, the opening exposing a surface of at least one of a metal layer, a semiconductor layer, and a semiconductor substrate, the method including the steps of exposing a surface of insulating layer and the substrate surface to a gas plasma which consists of at least one of an inert gas and hydrogen, exposing the insulating layer to a gas containing halogen atoms other than fluorine atoms, and selectively depositing a metal film in the opening of the insulating layer.